NEW ENGLAND FARMER.

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ORIGINAL COMMUNICATION.

T. G. Fessenden, Esq.
Editor of the New England Farmer.

County of Norfolk, June 21, 1825.

Sir,—Your paper of the 17th inst. furnishes two articles, in answer to some queries in the New England Farmer of the 13th ult. upon grafting, to which you have added some notes of your own, encouraging a discussion of the points in question with a view to elicit Truth, if it can be got at.

Under this invitation I beg leave to offer some observations on the subject, and if they are erroneous, they will be refuted; and, as you observe, "truth thus sifted and bolted will at length be obtained free from chaff."

The questions in your paper of the 13th ult. are—

"1. If a scion from a tree in full bearing is set upon a seedling stock that has never borne fruit, will the scion thus set become productive any sooner than the natural branches of the stock upon which it is placed?

"2. If a scion from a seedling tree that has never borne fruit is placed on a tree in full bearing, will it become productive any sooner than the tree from which it is taken?"

Your remarks on these queries in the same paper were, I think, just and correct upon general principles; but as you have now changed your view of the subject from some observations made by "Rusticus," in your paper of the 17th inst. I have been induced to trouble you with my crude notions in relation to it.

Rusticus says that in May 1820, he grafted into seedling stocks 3 or 4 years old, a number of scions taken from bearing trees; that they are now in a flourishing state, but have never yet shown any blossom; that in May 1821 he also grafted *some* into stocks which had arrived at a bearing state, and others into stocks not old enough to bear; that the former blossomed the third year, and ever since, but that the latter had never blossomed; that last year he grafted a scion from a bearing tree into a bearing stock, and the scion blossomed; but that he removed the blossom, and that it has not this year shown any flower.

From these experiments the author infers that the maturity of the scion is not wholly correspondent to that of the stock from which it is taken, but is affected in some degree, if not wholly controlled, by the *age* of the stock into which it is inserted.

Had Rusticus substituted the word "*habits*," in lieu of "*age*," I think he would have come nearer to the fact; but as I cannot but distrust my own notions on the subject, when they are in opposition to other gentlemen of experience, I submit them with deference.

The experience of some years, however, has led me to think that the scion carries with it all the "maturity," as well as all the other properties which it possessed while on the mother branch; and that any deviation from what it might have been, had it remained there, arises from the *habits* of the tree into which it is inserted, and by which it would have been equally affected in the *parent* stock, had the *habits* of that tree been changed. By *habits*, I mean the course given to it by cultivation, and pruning. Some trees have *luxurious* habits;—some *weakly* habits; some *temperate* and *fruitful* habits; and some *slovenly* habits. Rank or excessive pruning will give a tree *luxurious* habits in a rich soil; but in a poor soil the want of a free use of the knife will give it *weakly* habits. A judicious use of the saw and knife, according to the nature of the soil and situation, will give it *fruitful* habits; and the entire neglect of it will soon give it *slovenly* habits.

But it is important, in replying to Rusticus, first to ascertain whether the scions transferred to the seedling stocks in 1820 were *fruit bearing scions*, or only scions from a *fruit bearing tree?* These are distinct things; for on all fruit bearing trees there are great abundance of scions that have no fruit buds on them. I shall not therefore undertake to controvert his position, but rather give my views generally upon the subject of the properties of scions when transferred from one stock to another.

Scions taken from one tree and placed in another, will doubtless preserve all the *essential* properties they possessed while on the parent stock. They may no doubt be made, by being taken from a weakly tree and put into a thrifty luxuriant branch of a young and vigorous plant, to grow more thrifty than they did in their original situation, because they receive more nutriment; and in many instances this very luxuriance of growth may prevent their forming their fruit buds until there are a sufficient number of branches and buds formed on the tree to consume the superabundant sap, and thereby check its growth, and give to its wood more hardness, and to a portion of its buds time to form the germ of their fruit. While the vigor of the tree is such as to force all its buds into wood branches, they cannot obtain that maturity or state of virility if I may so express myself, which is necessary to the formation of its blossom buds.

On some trees—such as peaches—plums—apricots &c. the principal portions of the fruit buds are formed *annually* on the shoot of the season; a few only bear two years in succession. These are called by English gardeners spurs.—But in other trees such as apples—pears—cherries &c. the fruit generally *proceeds* from spurs, which continue increasing in size and in bearing, from two to seven years; each, in their turn resting from their labours during a season, until the whole are succeeded by new buds, and new spurs, to supply the deficiency.

In whatever state the scions are transferred, they will, I apprehend, remain if they receive from the foster parent the same degree of nutriment that they had from the parent stock; but if they are too feebly nourished they will not give existence to their fruit, if they do to the blossom; and on the other hand, if they have a superabundance of sap, they will grow into vigorous wood branches, but in due season will set their fruit at the base of those shoots or branches; probably this would be the case in some of the buds of the scion, the first year of its insertion: this is common.

We must not conclude that the scion alters its character because it does not show its blossoms on the seedling at once; for unless we are sure that it bear fruit blossoms when it is transferred, we cannot say what its *character* is.

I would not, however, be understood to say, that a young sapling tree is as good a stock to obtain fruit from, as a well grown vigorous fruit bearing tree; but *I know* that a young stock that has sufficient vigour to support its scions well, will bring out the fruit (if there be any in the scions) as well as an old one. Whether it will be able to bring that fruit to maturity, must depend on the variety of circumstances to which all trees are liable; but we every day see in hot houses, where there is generally great care bestowed upon them, peaches and nectarines, raised in tubs, on stocks *one* and *two* years old.

The difficulty in setting fruit is not, however, so much owing to the languid growth of the tree, as it is to the luxuriant *habits* it may have acquired in a rich soil. As an evidence of this you may retard the bearing of a tree by rank pruning; or you may bring a tree *into bearing* by transplanting it, so as to check its growth; or by taking off a ring or section of the bark down to the alburnum, from a limb that has never borne fruit. I have no doubt that a scion taken from a very vigorous tree that has never borne fruit, but that has attained a suitable age to support it, if transferred to a healthy, young stock growing in a good but less rich earth, will correct its habits, and be brought into a bearing state much sooner than it would have been, had it remained on the mother branch.

I apprehend that the bearing state of a tree does not depend so much upon the age and size of the tree, as it does upon the *habits* and *mode of culture* which it is obliged to submit to. Hence a scion taken from a luxuriant branch of one tree and transferred to a tree in full bearing, will soon acquire its habits, and probably come sooner into a bearing state than it would have done where it first grew, or if it had been transferred to a young luxuriant stock, in lieu of one that had already been brought to a state of discipline. In many countries, and particularly in France, this subject is perfectly understood; as, for instance, the *Quenouille*, or Distaff training, which is so much in use there, answers the double purpose of preventing your grounds from being shaded by extended branches, and is sure to throw the tree into early bearing. This is practised on *free* stocks, as well as quince stocks; and the finest fruit that I have ever seen or tasted was raised on these stocks. But there are many causes which we cannot immediately account for, which contribute to the fecundity as well as to the barrenness of trees.

Almost every variety of fruit has a soil which is most congenial to itself, and from which it receives the requisite degree of nourishment most conducive to its *peculiar* wants and habits. In such soils the tree grows with vigour, and fructifies at the same time; producing those fine samples of various fruits which we some-

times see bearing off the palm from their fellows that have not been so fortunately situated. Not only *soil* but *situation* has a great influence on the fructification of trees, as well as on the quality of their fruits; as we all know, who see the superiority of the fruits raised in town over those raised in the country.—But I am getting away from my subject.

That the scion retains its original characteristic, when transferred to a foster stock, is seen by the transfer of Pears to *quince* stocks—to *thorns*—to the *mountain ash*—to *apple stocks*, &c. and Peaches to *plum*, *almond*, and *apricot stocks*. The foster stock is simply the *nurse*, or mean through which nourishment is conveyed to the scion; but that nourishment does not alter the character of the *scion* any more than it alters the character of the *fruit* or the *variety* of the *species* which characterizes the parent tree.

There may be a latent germ of fruit in the bud transferred, which is not yet prepared for development, the first or even the second or third year; but I conceive, and fully believe from all I have observed on the subject during the course of many years, that with the same degree of nourishment in the foster stock that it had in the parent, and placed in a soil equally congenial to its fructification, it would develop its blossoms and set its fruit as soon in the seedling that had never borne fruit, as in one that had been in full bearing.

Much more may be said on this subject; but I must have already worn out your patience, as I have all the time I am able at present to give to it,—having other avocations which call for my attention, beside those of a

HORTICULTURIST.

Remarks by the Editor.—We think the above a valuable communication, and that it will prove of great use to those who are engaged in the culture of fruit trees. The ideas of the writer, relative to the *habits* of trees appear to be perfectly analogous to reason and the philosophy of vegetation; and though they have not been enforced in any treatise on fruit trees or horticulture so far as our observation has extended, they are nevertheless important, and their correctness so obvious that their mere statement is sufficient to meet the assent of any person capable of reasoning on the subject.

The opinion which we expressed in our paper of May 13, page 329 of the current volume viz. "that as respects maturity, or age of bearing, the scion or graft furnishes the criterion," was founded altogether on theory, or what a metaphysician would call the *fitness of things*, & no facts to coroborate it had then come to our knowledge. But our correspondent Rusticus, in his communication, published June 17, page 379, adduces his experiment to convince us of our error, and prove "that the maturity of the scion is not *wholly* correspondent to that of the stock from which it was taken, but is affected in some degree, if not wholly controlled, by the age of the stock into which it is inserted." As no theory however plausible and apparently well founded can be maintained in opposition to *facts*, which really militate against such theory, we thought ourselves called upon to surrender ours. But, in some instances circumstances, which are overlooked in making experiments, may so alter the nature of those experiments that they cannot be considered as decisive, with regard to theories, which they apparently confirm or refute.—The distinction between "fruit bearing scions" and "scions taken from a fruit bearing tree" as laid down by "Horticulturist," might have escaped the notice of "Rusticus" and yet this distinction gives an aspect to the experiment entirely different from that in which either "Rusticus" or the Editor contemplated it. Besides, we now have the testimony of "Horticulturist" in direct opposition to the theory of controlling scions, with regard to their maturity for bearing by the stocks inwhichthey are set. "Horticulturist" says above, "*I know* that a young stock that has sufficient vigor to support the scions will bring out the fruit (if there be any in the scions) as well as an old one; whether it will be able to bring that fruit to maturity, must depend on the varieties of circumstance to which all trees are liable."

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Since writing the above we have met with an article entitled "Observations on the Grafting of Trees, by Thomas Andrew Knight, Esq. of Elton Herefordshire, England." These were originally published in "The Transactions of the Royal Society, London" and republished in the "Repertory of Arts" from which we have taken the following.

"Being at length convinced that all efforts to make grafts from old and worn out trees grow were ineffectual, I thought it probable that those from very young trees, raised from the seed could not be made to bear fruit; the event here answered my expectations. Cuttings from seedling apple trees of two years old, were inserted on stocks of twenty in a bearing state. These have now been grafted nine years, and have not yet produced a single blossom. I have since engrafted some very old trees with cuttings from seedling apple trees of five years old: their growth has been very rapid, and there appears no probability that their time of producing fruit will be accelerated, or that their health will be improved by the great age of the stocks. A seedling apple tree usually bears fruit in thirteen or fourteen years; and I therefore conclude that I have to wait for a blossom until the trees from which the grafts were taken obtain that age: though I have reason to believe from the form of the buds that they will be extremely prolific. Every cutting, therefore taken from the apple, and probably every other tree, will be affected by the state of the parent stock. If that be too young to produce fruit, it will grow with vigor, but will not blossom; and if it be too old *it will immediately produce fruit*, but will never make a healthy tree."

Here is "confirmation strong" of the correctness of the opinions which we advanced in our reply to the queries of Mr Fish page 329 of our current volume, and to the principles so ably advocated by "*Horticulturist.*" Mr Knight has for many years been highly distinguished for his scientific and practical knowledge of horticulture in all its branches. He has made many valuable presents of different and excellent varieties of fruit trees &c. to the Massachusetts Agricultural Society and his remarks, discoveries and improvements have, for many years, supplied agricultural and philosophical journals with some of their best essays. Perhaps there is no person living, whose opinion relative to the cultivation of fruit-trees is entitled to greater weight than that of Thomas Andrew Knight, who may be styled the Newton of Horticulture.

From the Agricultural Journal, June 1825.

ANOTHER PRESENT FROM MR. KNIGHT TO THE HORTICULTURISTS.

That distinguished friend of physiological science, and of horticulture, Thomas Andrew Knight, Esquire, of Dounton Castle, near Ludlow, Salop, has recently sent a box containing valuable fruits. We cannot omit this opportunity of remarking upon his enlightened and disinterested zeal, not merely for the improvement of horticulture in his own country, but in others. He has enjoyed the advantages afforded by a very liberal fortune, which has enabled him to pursue his favourite occupation under unusual advantages. It will not diminish our respect for him to know, that he was one who opposed the war with America in 1775, and he has continued its steady friend to this hour.

Letter of Mr. Knight to John Lowell, President of the Massachusetts Society for promoting Agriculture.

[The Letter is not dated, but probably bore date early in March 1825.]

My dear Sir, I have this day sent a box to Messrs. Thomley of Liverpool, containing plants of the different varieties of figs cultivated in this country. As to names, it is perfectly useless to give any, for the fig tree is an extremely long lived plant, and the scions springing from the root probably furnish plants capable of being cultivated through an immense period, and the ruined gardens of almost every monastery appear to have afforded plants of the fig tree. We have, in consequence, one variety known by two or three different names, and two or three varieties known by the same name—We therefore only write from what gardens they were derived.

You will soon discover the sorts which are best adapted to your climate.

I have put into the box a plant of the Pear d' Aremberg, a most excellent variety.—It is labelled No. I. A branch (or cutting) of the Sylvanche verie d' Hyver pear tree (I had no tree) is marked No. II.; this variety bears well, and is excellent in my garden.

A plum tree with some cuttings of the Downton Imperatrice Plum described in the Horticultural Transactions last year by Mr. Sabine. It hangs and shrivels on my walls, and in the month of November it is (as Mr. Sabine states) very excellent. It is a most productive variety.

A budded tree, which shot two branches last season of an *apple* which was sent to the London Horticultural Society, as the "Mela Carla" supposed to be the best apple of the world, with some cuttings of the same—some grafts or cuttings of an apple which we call in Herefordshire, the Brandy apple, from the excessive strength of its cider—it is also a fine desert or table apple in very hot seasons. It is sometimes called the Golden Hervey. I have made an effort to convey to you eight varieties of our best strawberries.

I trust that I have so packed them that they will arrive safe. No. I. is Kean's seedling, and No. VIII. is the Downton Strawberry—the others are quite new, and are probably the largest strawberries in existence; a single berry grown in my garden last year weighed 558 grains, and many others approximated that weight. The weight and beauty of Kean's seedling have caused it to be much cultivated for the London market. I however think it to be the least good of those which I send you. I send also some improved varieties of the red currant.

I send also some scions of the Hardenpont de printems pear, which I know to be correct, having been taken from a bearing tree, and marked instantly by my own hand.

Yours, TH. A. KNIGHT.

John Lowell, Esq. *Roxbury, near Boston, Mass.*

The above mentioned present to our country has safely arrived by the brig "La Grange." The plants are all in a growing state.

From the American Farmer.

MARYLAND CATTLE SHOW.

REPORT OF COMMITTEE ON VOLUNTEER PREMIUMS.

The committee on the volunteer premiums have given to the subject of the premiums offered for *essays* on two important branches of rural economy, that earnest and serious attention which the importance of the subjects and the characters of the donors seemed to entitle them to.

The first which presented itself, following

the order of publication, was the silver cup, offered by that liberal and public spirited citizen Robert Oliver, Esq. "to the author of the best essay on the natural history of the mule, and its value for the general purposes of agriculture, in comparison with horses." For this premium there were six competitors, and several essays of great merit; giving a mature consideration to them respectively, and observing exactly the terms on which the premium is offered, the committee award the premium for the best essay on this subject, to Samuel Wyllys Pomeroy, of Brighton, in Massachusetts. It might be deemed invidious to other competitors for this prize, to speak of them by name. For the purpose of this communication, it is sufficient to state, that, at least one of the other essays contained matter which would have added to the practical value of that of Mr Pomeroy, though inferior to it in other respects, and particularly in what relates to the natural history of the animal, which it appears to have been an important part of the object of the donor to draw forth.

For the other essay, "on the value and use of oxen, in comparison with horses, in the middle and southern states, accompanied by a description of the best method of gearing and breaking them," the committee after a mature and deliberate examination of a number of able and practical essays on the subject, do award the premium of a silver cup of the value of $25, patriotically presented by the venerable Charles Carroll, of Carrollton, to Thomas P. Stabler, of Montgomery county, Maryland. His essay is considered entitled to the premium, as conforming to the intention of the donor, which doubtless was, to elicit the best practical information on the subject.

The committee take much pleasure in stating to the friends of the agricultural society, that the compositions on both the above subjects demonstrated the growing interest which is felt in the improvement of agriculture, and the advantages which result to the community by the labours and contributions of the association. So much merit was evinced in the various communications on both the subjects proposed, that, if the terms on which they are received would allow of it, each might be entitled to particular mention. They hope yet to see some of them usefully occupying the columns of the American Farmer. JOSEPH GALES, Jr., *Chairman.*

[The following article was originally published in the Essex Register for May 1802.]

In my Garden is an Apple tree, which about the year 1763 sprouted from the root of a former tree; it now girts three feet and six inches. From 1784 to 1790 I observed it to be barren, and a cumberer of the ground; year after year being the prey of caterpillars, and exhibiting the constant appearance of innumerable warts within the outside bark, which at the time I suspected was the effect of natural instinct in the insect for the propagation of its kind.

The garden, &c. did not fall under my particular care and cognisance until 1792. In the spring of 1793 I tried an experiment for giving it new life, as follows. Very early in the season I directed my gardener with a hoe to cleanse the outside of the bark of such excrescences as might bow to the operation with little difficulty: In the next place I directed him to raise a wall of small stones around the tree at the distance of one foot, and perhaps nine inches high; and then to fill the cavity with horse manure.

The effect the succeeding season was truly worthy of notice; the warts disappeared, the bark clean and thrifty, and the tree so loaded with fruit as that about one third of the boughs broke and came to the ground with the cumbersome weight. Comparatively no caterpillars since, and on an average, a very plentiful produce of fruit, yearly. I have not yet renewed my experiment, and think it would be well not to neglect it.

I was led to the experiment by taking notice of a pear-tree that had been in a very similar situation, and had been resuscitated in the same manner. AGRICOLA.

WINE AND BRANDY.

Too much dependence must not be placed on the reports from France, of the failure of the grape crops. We have such reports every year from injuries done to the crops in particular districts.

According to Arthur Young, five million acres are devoted to the cultivation of the vine. This is one twenty-sixth part of the whole surface of France, and when the culture of an article extends so far and wide the chances of a general failure are very small.

WHEAT.

Such is the luxuriance of wheat in some parts of Tennessee, that great waste occurs from the grain dropping from the burr before it is reaped. Dr Thomas Walkins, with a view of seeking a remedy, if there be any, states—"that a crop of wheat that will yield fifteen bushels to the acre, in East Tennessee, will fall more than a crop in some other parts of the United States yielding from thirty to forty bushels."

MULBERRY TREE.

The report of proceedings in the New Hampshire Legislature contains a notice of a petition for an act of incorporation to cultivate the mulberry tree.

VERMONT STATE CANAL.

An adjourned meeting on the important subject of a Canal from Lake Champlain to Connecticut River, is to be held in Montpelier, Vermont, on Thursday next. Three routes have been examined, and declared practicable. The whole distance is about 70 miles.

DEAF AND DUMB.

It is calculated that there is about one deaf and dumb person to every 2000 of the population of the U. S. or 6000 in the whole. 600 of these are estimated to be in the State of New York; and a greater proportion in the city than out of it. The school there has 53 pupils—for 5 vacancies there are 74 candidates.

Lamentable Superstition.—A species of blight or grub, has rested on the blackberry leaves, gnawing them in a serpentine manner, so that the dead fibre shows through the remaining green. It will hardly be credited by many persons, that in consequence of a certain prophecy, there exists a great degree of alarm in the minds of the lower classes residing in the country on the borders of Dorset and Devon. It has gone forth that a "flying serpent" will poison the air, which, becoming impure, will cause the death of nineteen persons out of twenty; and that the time will be known by this particular appearance on the leaves of the blackberry, which the pseudo-prophet calls the reflection of the serpent. Another version of the story has its origin from a different reading, promulgated by some "wise men," (of whom there are not a few practising in this and the adjoining Counties,) that the serpent, whose pestilential influence is to be felt, is no other than Satan, whose period of bondage is expired. A third account describes, that the deaths will take place principally among persons under thirty years of age. This impudent imposition upon credulity and ignorance gains credit in the 19th century, and *hundreds* of individuals have *paid* for charms to secure themselves from danger and infection.—*Sherborne (Eng.) Paper.*

PRICES OF COUNTRY PRODUCE, &c.

[Revised and corrected every Friday.]

		FROM D. C.	TO D. C.
APPLES, best,	bbl		
ASHES, pot, 1st sort,	ton.	93	94 00
pearl do.		98 00	100 00
BEANS, white,	bush	1 33	1 50
BEEF, mess, 200 lbs. new,	bbl.	10 00	10 50
cargo, No 1, new,		7 75	8 00
" No 2, new,		6 25	6 50
BUTTER, inspect. No. 1. new,	lb.		
CHEESE, new milk,		7	10
skimed milk,		3	4
FLAX		9	10
FLAX SEED	bush	1 05	1 10
FLOUR, Baltimore, Howard St	bbl.	5 37	5 50
Genesee,		5 00	5 25
Rye, best,		2 50	3 00
GRAIN, Rye	bush	53	54
Corn		53	
Barley		50	
Oats		30	31
HOGS' LARD, 1st sort, new,	lb.	11	12
HOPS, No 1, Inspection		8	11
LIME,	cask	1 17	1 21
OIL, Linseed, Phil. and Northern	gal.	75	100
PLAISTER PARIS retails at	ton.	4 50	4 75
PORK, Bone Middlings, new,	bbl.	17 00	
navy, mess, do.		14 00	
Cargo, No 1, do.		13 50	
SEEDS, Herd's Grass,	bush	1 75	2 00
Clover	lb.	7	8
WOOL, Merino, full blood, wash		60	75
do do unwashed		40	45
do 3-4 washed		45	50
do 1-2 do		37	42
Native do		25	33
Pulled, Lamb's, 1st sort		48	52
do Spinning, 1st sort		40	45
PROVISION MARKET.			
BEEF, best pieces	lb.	8	10
PORK, fresh, best pieces,		6	8
" whole hogs,			
VEAL,		4	8
MUTTON,		5	8
POULTRY,		8	12
BUTTER, keg & tub,		14	16
lump, best,		20	22
EGGS,		12	14
MEAL, Rye, retail,	bush	65	70
Indian, do.		60	70
POTATOES,		37	50
CIDER, liquor,	bbl.	2 75	300
HAY, according to quality,	ton.	18 00	20 00

CONTINUATION OF EXTRACTS FROM THE ADDRESS OF ROBERTS VAUX, Esq.

(*From page* 378.)

Next in importance to the improvement of the land by judicious modes of cropping, and the application of restoratives suited to the various qualities of the soil, are roads, bridges, canals, and the rendering of streams navigable. The husbandman will toil in vain, if the products of his labour cannot reach a market by a moderate expenditure of time and money. The necessity of facilitating the intercourse between the interior remote parts, and the sea board of Pennsylvania, was early perceived by many of her enlightened citizens, who, in the prosecution of their designs, had to contend with difficulties similar to those which impeded the exertions to renovate her husbandry. Some improvements had been made during the provincial age of Pennsylvania, by the removal of obstructions to the descending navigation of rivers; but the first turnpike constructed on this side of the Atlantic, is that which was completed between Philadelphia and Lancaster in 1794. Since that period, more than a thousand miles of artificial road have been made of stone in various parts of the commonwealth. Bridges of great magnitude and beauty have also been thrown across our principal rivers, at an expense of more than a million and a half of dollars, whilst the utility and cost of those of an inferior grade, in nearly all the counties of the state, cannot be readily estimated. It is now almost half a century since the noble design was formed of uniting the Delaware and Susquehannah rivers, by means of the waters of the Schuylkill and Swatara. The failure of so grand a scheme, with great pecuniary loss to those who engaged in it, vitally affected the interests of our agriculture; but the lock navigation rapidly progressing to completion on the same route, penetrating as it will to a remote interior point, hitherto inaccessible by such modes of communication, promises to all our different interests results of the greatest magnitude. The difference between transportation upon a good turnpike and upon a common road, is familiar to every one; but the difference is immense between even the best turnpike and a canal. A single horse will draw, with ease, twenty-five tons, two miles and a half per hour upon the latter; but to move an equal weight upon the former, at the same rate, would require forty horses. What a vast saving must here be made in animals and in provender, and a large part of this, too, for the benefit of the husbandman; because his stock may be less, and his saleable produce greater, and he may be enabled to carry many new articles to market, by all the difference of consumption. Canals will also promote the use of oxen instead of horses, to the acknowledged profit of the farmer.

The introduction of coal will constitute a new era in Pennsylvania. It will enable the farmers of a large district to convert grounds occupied by wood to the production of valuable crops, and lime and other manures will be transported by canals, to points which they could never otherwise have reached. Canals will likewise greatly contribute to promote the policy of the state, in the subdivision of property; and by giving additional means for sustaining a large population upon a small surface, must create new towns, new manufactories and new markets. Had not the canal of New York eclipsed almost all similar undertakings, a distingushed place might be claimed for Pennsylvania, as a patron of inland navigation. The works on the Schuylkill, now completed, extend one hundred and eleven miles. Forty miles of the Union canal are nearly finished, and when the latter reaches its termination, the aggregate will not be much short of two hundred miles. To encourage and promote in future the formation of canals, wherever the geological features of the territory invite, or will admit of such improvement, is at once the duty and interest of all who seek the permanent welfare of our agriculture. In addition to the early aids afforded to the husbandry of the state, I ought not to omit the important fact, that the selection and introduction of valuable domestic animals was not disregarded, even when the minds of the early benefactors of agriculture were directed to the primary duty of increasing the products of the land. Some excellent breeds of sheep, and swine, were brought from abroad, many years ago, and great pains were taken to spread them among our farmers. But the great importance of this subject has been but recently urged with effect upon their notice. Our useful fellow citizen and associate, John Hare Powel, whose indefatigable labours deserve the highest commendation, has, at much expense, imported some individuals of the best families of cattle and sheep known in Europe. His judicious and liberal design is to prove, that all the beasts which administer to our necessities, or conduce to our comforts, ought to be chosen and bred in reference to their respective qualities: The horse, for the various employments to which that noble and generous animal is so admirably fitted: The ox, whether for labour or for the shambles: Sheep, whether most profitable for the fleece, or carcass: The cow, as adapted to the dairy, or otherwise more advantageous, as circumstances and interest may dictate. To this laudable pursuit combined with rural affairs generally, he has succeeded in awakening the attention of a body of respectable and intelligent cultivators of their own farms, in various counties of the state, who, constituting, "*The Agricultural Society of Pennsylvania*," will no doubt contribute largely to the general good.

From the American Farmer.

ON BORING FOR WATER.

Washington, Jan. 31*st*, 1825.

Mr. SKINNER,

Sir: I send you John Trimble's essay on boring for salt or fresh water. Mr Dutty, of Wheeling, (Virginia,) has bored about 900 feet for salt water, on the bank of the Ohio river. He works his auger with horse power, which very much reduces the expense of boring.

I am, &c. DAVID TRIMBLE.

To the Editors of the National Intelligencer.

GENTLEMEN,

You have been twice called upon lately, by "A Farmer," for information on the subject of boring for fresh and salt water. He refers to a paragraph in an English paper, in which the art of boring is claimed as a recent discovery made in England: but the fact is, that we *savages* of the west have had it in use for more than twenty years before it was exported to that kingdom. We all know that *John Bull* has a habit of claiming all useful inventions as his own, and, therefore, I was not surprised when I saw the attempt thus made to impose the discovery upon the world as of British origin—but I am astonished that any American should have been inclined to believe, (as your querist is,) that the account of boring is a *hoax*. The art (I repeat it,) has been practised on the western waters for more than twenty years; and, I presume, that not less than two hundred experiments have been made, terminating at various depths, of from fifty to five hundred feet. I assure you and your readers, that I was, myself, jointly with others, interested in an experiment for salt water, in which the boring terminated at about three hundred feet, and was present during the greater part of the operation. The original inventor is unknown to me, but his discovery has saved the western people some millions of dollars, by reducing the price of salt; and, as the subject is of much importance to those who are not so fortunate as to have pure fresh water springs near their dwellings, I shall give a hasty reply to your inquiry, hoping, however, that some one better qualified will supersede me, by giving you a full statement of the whole process.

In boring for fresh water, the expense and trouble of sinking a *gum* would be a mere trifle, as solid rock would generally be found near the surface; but experiments for salt water are usually made along the banks of large streams at low water mark; and, at such places, it is indispensably necessary to sink a gum through the sand and gravel to the rock, so as to exclude the fresh water, which would otherwise defeat the operation. I shall, therefore, begin by describing the manner in which gums are prepared and sunk, and shall then describe the auger and mode of boring.

The experiment is commenced with an iron bar, (square or round,) about thirty feet long, and nearly two inches in diameter; the point should be of steel, well hardened, and at the end a strong loop must be made for the handle. With this bar (which is called the *searcher* or *searching auger*,) the sand or soil is perforated until the point strikes the rock: it is then drawn up and measured, which gives the length of the gum that must be sunk.

The gum is prepared in the following manner: Find a poplar or sycamore (the latter is best,) of the length required; it must be 4 feet in diameter at the small end; saw both ends square, and bore a hole through the centre of 2 or 3 inches in diameter. *Ream* a funnel at one end, in which if a fire is properly built, and the opposite end a little elevated, the blaze will be drawn along the pole, and enlarge it from end to end. The fire may be fed by putting in small poles or split wood, and the log must be rolled over from time to time, to equalize the action of the blaze, until a calibre is formed of not less than 3 feet—3½ feet is better. If it burns too fast at the ends, slack the fire with water.

The *gum* (such is the name it now takes,) is carefully hauled to the place where the experiment is intended to be made; a strong iron hoop should be driven on the small end to prevent it from cracking when the head is wedged. A few feet may be dug in the ground at the place perforated with the *searcher*, and the small end of the gum is laid over it. A strong frame with four perpendicular posts firmly braced and

well fastened in ground or mud sills, is then planted at the hole, and the gum is elevated until it is brought to an exact perpendicular; in which position it must be kept while sinking, and great care is required at the commencement to prevent it from working obliquely. A strong platform must be placed on the top of the gum, with projecting beams covered with plank, leaving a square of about three feet over the centre, through which the interior operation is conducted.

A *sand auger* with *bags*, is then used, to cut and draw up the sand and gravel, which must be thrown on the platform, the weight of which is generally sufficient to force the gum down.

I shall refer your readers to the Patent Office at Washington, where they may find a description of the *stone chisel* and *sand auger with bags*. The patents were granted to Mr Richard Deering, of Greenup county, Kentucky, and his description and directions how to use them will be better understood than mine. The process is continued with the sand auger until the gum sinks to the rock.

A tube, or conductor, is then made, by getting a log as long as the gum, and about 9 or 12 inches in diameter, through which a hole must be bored of not less than six inches in calibre; and thus prepared, it must be put in the gum and plummed to its centre. And an auger is then made similar to those used in blowing rocks, with a square shank, less than two inches in diameter, and about 12 inches long. On the end, a screw is cut, which is firmly screwed into a socket formed on the end of a similar bar, which should be about twelve feet in length; on the upper end of this bar which is called "*the dickey*," a similar screw is cut, which is, in like manner, screwed into a similar socket made with concave clamps, which is firmly rivetted to a round pole, made of ash timber, twelve feet in length and about two inches in diameter. This is called the second joint of the auger, the iron bar being the first. On the upper end of this pole, or second joint, a similar clamp is fastened, with a screw upon it, which is screwed into a socket fastened with clamps on another pole. This pole, or joint may be 15 or 20 feet long, and thus the joints of the auger may be extended to any length required. A short joint must be made, of iron, with a swivel at the top and socket at the bottom, which is screwed to one of the joints, and a rope, of twelve or more feet in length is fastened to the swivel.

A *spring-pole* is then procured, of twenty or more feet in length, (pine is much the best,) the large end of which is fastened to a post, firmly planted in the ground: a platform is made on the frame first described, about 12 or 15 feet above the top of the gum, and a fulcrum is fastened to the frame about 3 feet above the platform; the spring-pole is placed on it at an elevation of eight or ten degrees; and the point of the pole should project over the gum.

The auger is then let down the six inch tube or conductor, and suspended to the spring pole by the rope, the pole being sprung down a few inches, and the rope made fast. Two men stand on the platform, facing each other, on adverse sides of the pole to spring it, and an operator stands on the top of the gum, (which should now be covered,) holding the auger gently in hand, and turning it as the pole springs up. He must turn to the right or the joints will unscrew, and the auger must be carefully plummed to the centre of the tube or conductor, so as to work free and not rub.

The auger first used must have a bit of about six inches, and with this the operator must bore through the soft shelly substance usually found, until he comes to the hard solid rock, into which he will penetrate twelve or eighteen inches. The auger is then taken out, and the conductor also in which it was inserted. Thus far the sinking and boring may be conducted with the gum full of water; but if any has risen, it must now be pumped out, and a head, previously made to fit the bottom of the gum, must be put in: this may be in two or more pieces six inches thick, and in its centre a round hole must be cut, of rather more than six inches in diameter; a tube must be prepared long enough to touch the rock at the bottom of the six inch hole, bored as before described, and to rise six inches above the interior head of the gum; this tube must be nearly six inches in size, with a hole $3\frac{1}{2}$ inches, bored through its centre. It must be carefully wrapped with hemp, from one end to the other, until it fits the hole in the rock tight enough to require driving; it must then be put in the hole and driven home, and the joints and edges of the head must be wedged and corked until all fresh water is excluded. This must be carefully done, so as to make the head water proof, and leave all fast and firm; and as this is the most difficult part of the whole experiment, I would advise the undertaker to have the work well done and effectually secured. If the water is troublesome, two or more pumps may be used to keep it down.

A three inch bit (if the hole is intended to be of that size,) is now screwed on the bar, and the long tube or conductor is again let down and placed exactly on the top of the short tube, and the auger is put in and suspended to the spring-pole, which must be gently sprung, until the auger is well plumbed, and works free without rubbing. The conductor must be well braced, so as to keep it firmly to its perpendicular position; and the top head being laid on the gum, all is ready for boring.

The operator may now turn the auger, and (as the phrase is,) begin to bore for salt water, and may bore, as many have done, for five hundred feet in search of it. If the pole is properly sprung, the *fall* of the auger will be sufficient to perforate the rock; but if hard places are found, the operator may give some additional force to the fall, and those who are perfect in the art of boring, can do so without much increase of muscular exertion.—After working a few hours, the pole men will find the spring of the pole, and will then know how to make it *work free and easy*, by changing its elevation, and by moving the fulcrum, if necessary.

If the auger is permitted to work obliquely at first, the experiment will be lost—and therefore it must be well handled at the beginning, and the hole bored for the first fifteen or twenty feet, upon an exact perpendicular. Care should be taken to prevent any substance from falling into the hole, especially iron or steel. In the experiment which I in part superintended, our operator wrought the auger nearly two weeks upon a single inch, and we were never able to know whether his efforts were resisted by the hardness of the rock, or the hardness of some substance which had fallen into the hole.

It is usual in salt water experiments to bore a hole about three inches in diameter, and of course the bit of the auger must be of that size, but two and a half inches is common, and will do nearly as well. The bit must be made by a guage, and must be guaged whenever sharpened. The operator must have four or five of them, and in boring, must be changed every three or four hours; because the friction will reduce the size of the bit. When a fresh bit is put on, the operator must work gently until he reems the hole down to the bottom.

In making the joints of the auger as before described, the head of the socket must be swelled to about two inches, and a similar head or shoulder must be made on the screw; and these should fit close when the joints are screwed on. The bar must be square, from the head or shoulder to the clamps, and two screw drivers are required, the hook of which must fit the square of the joints. In drawing or returning the auger, one of them is hooked upon the lower joint and held fast, and the socket of the upper joint is screwed off and on with the other.

The auger should always be drawn at night; because if any hard substance should get in, by accident or design, it would perhaps be impossible to draw it up. When drawn the joints should be placed in a perpendicular position, to prevent them from springing.

A *sand pump* must be used every two or three feet, to draw out the borings. It is made by getting a copper tube three or four feet in length, and two inches in diameter, in the lower end of which a *valve* is fixed, and at the upper end a screw is made to fit the sockets of the auger joints. A hole is cut in the side of the tube two or three inches below the screw, and it may then be screwed on and let down, and being filled by ten or fifteen gentle strokes, is drawn up and emptied. This may be done quicker and easier by tying a long rope to the top of the pump, a hole being made for that purpose. If the rope breaks, the auger must be let down with a hook screwed on to fish it up.

In making experiments, it almost always happens that one or more streams of fresh water are struck before salt water is obtained, and, in such cases, the fresh water must be tubed out after the boring is finished. For this purpose, a tube is made of copper, (with joints similar to those of the auger,) the calibre of which should not be less than one and a half inches—two would be better. When a stream is struck in boring, the auger is marked and the distance measured, and the tube must be long enough to descend below the lowest stream that is proposed to be excluded. Before the tubing commences, the hole must be *well reemed* to the proper distance; which being done, the lower end of the tube is carefully wrapped with soft hemp, for two or three feet, and is then let down, or rather pressed down, until it passes a few feet below the stream of fresh water.

The upper end is wrapped in the same way, so as to fit the wooden tube at the bottom of the gum, and the plate of copper should be fastened on it and nailed to the wooden tube. If this is properly done, the hemp will swell enough to make it water-tight at both ends, and, if well rubbed with tallow, will last for many years. The upper end of the tube should be plugged while the workmen are fitting it in, and, when

all is ready the plug is drawn, and the salt water rises.

In this description I have endeavoured to give a part of the information which you want. Some non-essentials have been omitted for the sake of brevity, but any workman of common capacity will supply them, when required, in the course of an experiment. You will find some tautologies in reading, for which I offer an apology by saying that I wanted to be clearly understood, and that I have written hastily and have no time to review and prune.

The art of boring is now so well understood, that persons of skill can be hired to bore any depth, at the following prices, and probably for less: For the first 200 feet, 2 dollars per foot; for the next 100 feet, 3 dollars per foot; for the next 100 feet, 5 dollars per foot; and for the next 100 feet, 6,50 or 7 dollars per foot. At these prices the undertaker boards and pays his own hands, and the owner of the soil furnishes the auger. And thus a hole may be bored 500 feet deep for less than two thousand dollars, and I make no doubt has been often done for twelve or thirteen hundred dollars by persons using proper economy.

It is said that some person, whose name I have not heard, has obtained, or is about to obtain, a patent for a mode of boring by horse power. This, I am sure, may be easily done; and I have been told by an acquaintance, that he once saw an auger at work by water power, with only one hand to manage it when in operation.

I have no time at present to say any thing upon the question of subterranean hydraulics; and, if I had, you and the "Farmer" can get much better information by consulting books and men of science. I am satisfied the same laws govern the gravitation of water below and above the earth, and that the jet of a stream is not and cannot be higher than its source.

The lower point of a cavern half filled with water may be struck in boring, and if the superincumbent air is comprest, its expansion will force the water upwards until an equation of force is produced between the powers of gravity and rarefaction. The jet of such a fountain may be much higher than the source of its feeders, but when the air blows out, the water must subside. The whole effect being produced by a well known law of the science of pneumatics.

No actual experiment, within my knowledge, justifies a belief that flowing water can be procured on a hill by boring, unless there is a neighbouring hill, higher, from whence the stream is fed; and yet I believe that the discovery is a much more important one than the "Farmer" is aware of. Good water, even if obtained by boring an hundred feet below the surface of a valley, is better than a bad spring on the top of a mountain. I am satisfied that thousands of valuable lives are annually lost to the country by drinking bad water in the sickly seasons, who might be saved, and the sickness of other thousands prevented, by expending a few hundred dollars in making experiments. Living streams of pure fresh water, cool and healthy, are found every where below the surface.

The inhabitants of low, flat countries, whose springs are only swamp water, filtered through mud and sand, would be certain of getting pure streams, by sinking gums and boring; and the experiments would often end by sinking the gums—as it is known that good water is often procured in the gravel, thirty or forty feet below the surface. The quantity is sometimes so great that it is difficult to head a gum at the bottom. It is known that pure fresh water is often found below streams of salt water, and I am satisfied that people living on the seaboard may find fresh water two or three hundred feet, or more, below the surface of the sea: and when found, the salt water may be tubed out, and the fresh water obtained—as it will always rise in the tube and gum, to the level of the salt water surface; and if fed from neighboring heights, will rise to the level of its source. I am told that, in some of the islands, the entire population of towns are supplied by importations of fresh water, which is preserved in tanks and cisterns, and made fit for use by filtration.

These good people might supply their wants from native fountains and subterranean streams, by boring. Two thirds of the inhabitants of our cities might bore with success on their lots, and supply their kitchens with pure water, instead of the filthy drainings taken from their reservoirs.

It has been said that there is no good water on Thompson's Island, (Key West,) and I shall believe it, after an experiment is made, by boring four or five hundred feet, and not before.—I will admit, however, that such small flat bodies of land, surrounded by the sea, are not likely to afford fresh water, at any convenient depth; but I should not despair of getting fresh water upon all islands having hills and mountains.

Taking the earth to be a solid mass, (as I believe it is) according to the old theories, I am of opinion that the chance of getting fresh water every where, by boring, is about nineteen to one in favour of the experiment; and if there is an *interior concave*, as Capt. Symmes supposes, and he has offered more than sixty good reasons for his belief, I should consider the chances to be the same.

If what is here said will enable you to answer the laudable inquiries of the "Farmer," you are at liberty to publish it; and I am very respectfully, JOHN TRIMBLE.

Mount Stirling, Ky. Nov. 6, 1823.

NEW ENGLAND FARMER.

FRIDAY, JULY 1, 1825.

The Massachusetts Agricultural Repository and Journal, for June 1825. This useful and ably conducted publication continues to present a fund of valuable information to the Agricultural reader. No remarks of ours can enhance the reputation of a work so well known, and so highly and justly appreciated by all who are acquainted with it. We shall, therefore, for the present, merely copy the table of contents, which will show that the topics of the last number are well chosen and we can assure our readers that they are ably discussed.

"On the Improvement of our breed of Horned Cattle by Importations. [This we intend to republish soon.] On the comparative value of Oxen and Horses for Agricultural Labours. The Yellow Pine. Upon the Deterioration, or the Deception in Clover Seed in the Boston Market. Another present from Mr Knight to the Horticulturists. On the Improvement of Soils.

"On salt, as a Manure, and as promoting the Health and Fattening of Domestic Animals. On the use of Salt for Horses, Sheep and Cattle. Extracts from Ancient Writers on the Employment of Common Salt in Agriculture, and in feeding Cattle. Extracts from more Modern Writers on the use of Salt in Agriculture. Agricultural Intelligence. Comparison of the present season with former ones, and the Agricultural prospects of the year. Flowering of various Plants, and early Garden Products. Index to the VIIIth Volume."

It will be seen by reference to an article on page 386 of this day's paper, that SAMUEL WYLLYS POMEROY, Esq. has been the successful candidate in obtaining the premium of a Silver Cup, for the "best essay on the natural history of the mule," &c. We are much gratified with this information; and from our knowledge of the literary and scientific attainments of Mr Pomeroy, are confident that the merits of his Essay fully justified the decision of the arbiters.—We hope soon to be able to present Mr Pomeroy's Essay to our readers.

[COMMUNICATION.]

Charlestown, June 23, 1825.

MR FESSENDEN—The season has come when we are as usual, annoyed with various kinds of mischievous insects, and I know of none more so than the *Slug*. These filthy creatures attack our Cherry and Plum trees in such numbers as to threaten their destruction—indeed I have understood that one of my neighbours has lost a large Cherry tree entirely by this enemy. I do not know but you may have given some directions in your valuable paper how they can be best destroyed, but if you have, I do not now recollect it; and indeed I, for one, think it would not be amiss to repeat at certain seasons, some observations which have appeared in the Farmer, relative to these and similar subjects, as we are more apt to put into execution that which *present* circumstances render immediately necessary; and by thus getting a *practical* knowledge of the subject, we shall be more likely to keep it in memory for the future.—A few remarks, Mr Editor, from you or some of your correspondents upon this subject at this time I think might be very useful. It is a dismal sight to look into our gardens and fields at this season of the year, and see the situation of many of our fruit trees, occasioned by this formidable foe.—If he would be so good as to eat the leaf entire, it would be some relief to us, but the only object seems to be to satisfy his hungry appetite upon the beauty of the tree, leaving it looking worse than a "singed cat."

The only weapon that I have yet used, Mr Editor, is thumb and finger; and unless you can point out a better one, I am determined still to use it, but as this is a tedious as well as disagreeable operation, I hope some plan will be suggested that will be more likely to be generally pursued.

I should be gratified to have the following queries answered in the Farmer.

What is the origin of the Slug? What is the best method and the best time to exterminate them? and will it be likely to be effected unless there is a general "turning out" for the purpose? Have they not increased of late years, and is there not danger that they will become more destructive than most other insects with which we have to contend?

Yours, GENERAL GOOD.

Remarks by the Editor.—Dr Thacher in his valuable work, The American Orchardist, page 106, has the following observations;

"*Slug Worm, or Naked Snail.* It is from the accurate observation of professor Peck, that we are enabled to present the reader with the history of the slug worm, by which, of late years, our fruit trees have been infested. These reptiles make their appearance upon the leaves of fruit trees, in the month of July, and our ingenious professor has discovered, that they are the progeny of a small black fly, which deposits its eggs in the leaf in the months of May and June, and in fourteen days after the deposit, the perfect slug is found adhering and feeding on the leaves. It is of an olive colour, with a slimy coat, and in the course of twenty days, it throws off four skins, at nearly equal periods; it remains in the fifth, or last viscous skin, six days, and acquires its full growth; it then quits this fifth skin, which is left adhering to the leaf, and appears in a clean yellow one, entirely free from viscidity, and has so different an aspect that it would not be supposed to be the same larvæ. After resting some hours, it proceeds slowly down the tree to the earth, into which it enters to the depth of from one to four inches; and in about eighteen days they again ascend from the earth, in the form of flies, and these again deposit their eggs in the leaf; so that they produce two hatchings in a year.

"It is happy for the fruit planter, that a simple method is discovered, by which these destructive insects may be effectually destroyed. This is done by means of lime sprinkled over the leaves in the form of powder.—For this purpose, a wooden box, of convenient size, having its bottom perforated with numerous small holes, is to be filled with lime. This being mounted on a pole, by shaking over the tree, distributes the lime among the leaves, and the slugs are immediately destroyed. The labour is very trivial; a man may cover a large tree in three or four minutes; and the desired effect is certain. Fine earth shaken through a basket or perforated box, will answer equally well.

"Another remedy, it is said, will prove equally effectual. It is a strong infusion of tar, made by pouring water on tar, and suffering it to stand two or three days, when it becomes strongly impregnated. This, if sprinkled over the leaves by means of an engine, will kill these vermin instantaneously. Tanners' bark put round fruit trees, will destroy the slug worm."

Mr Forsyth recommends watering the ground where these insects are with soap suds and urine, mixed with tobacco water. "When they are numerous on the surface of the ground, which frequently happens after rain, or in a dewy morning, fine unslacked lime, thrown over the borders &c. will destroy them. But I prefer the above mixture, which, if the ground be well watered with it will bring them up out of their holes, when they very soon die. It will also destroy their eggs, which they deposit in the earth.

Dr Darwin says (Phytologia, Sect. XIV 3,5,) "It has lately been asserted that watering the ground with tar water will destroy slugs; which may be made by adding a few pounds of tar to a hogshead of water, and well stirring it, without perceptible injury to the tar. A circle of lime round the flowering stems, or of salt, or even of bran in dry weather are means of preventing the approach of slugs."

In the Transactions of the London Horticultural Society, vol. II. the application of lime water, recently made by pouring hot water in quick lime, and thus saturating, or impregnating the water with as much lime as it will take up, or hold in solution, is recommended for destroying slugs. The Agricultural Report of Scotland says some gardeners have recommended the use of lime water, [for the destruction of insects on Fruit Trees &c.] but it is not commonly employed, being found hurtful to the foliage, and we should be apprehensive that quick lime in powder, sifted over the leaves of trees might injure them.

The Rev. Mr Falconer, in a paper published in the Transactions of the Bath Agricultural Society, recommends *soap suds* as preserving against or destroying all kinds of insects. He does not specify slugs in particular, and it is possible that soap suds may not be sufficiently powerful to destroy them without the addition of tobacco and urine to the mixture, as recommended by Mr Forsyth. Soap suds are however so cheap, and the experiment so easily made that we wish it tried. The oil or grease in the soap so far neutralizes its alkali that the application of a pretty highly impregnated mixture of soap and water will not injure the most tender plants. The mixture may be sprinkled over the leaves by a common watering pot, or by (what would be more expeditious and effectual) a gardener's pump. Soap suds are highly valuable as a manure as well as an antidote to insects, and by their use two good purposes may be affected by one application.

It is thought to be of importance not to apply any muddy or glutinous substances to the leaves of plants of any kind as such substances close the pores of the leaves, and prevent that perspiration, which is essential to the health of every vegetable while in a growing state. We have known plants killed by strong solutions of salt, intended to destroy insects. Decoctions of tobacco red pepper, walnut leaves, elder &c. are not injurious to plants, but are thought to be, and we believe generally are fatal to insects of most kinds. The rose bug, however, is said to resist all applications of this sort, and nothing short of main force, the use of the thumb and finger, or something equivalent will prevent their depredations.

A raft of ship timber from Rochester lately passed down the Erie canal, destined for New York, valued at $33,000! Every year now, evidences of the vast benefits of the New York canals, are exhibited.

George F. Street Esq. has been appointed Secretary to the Agricultural Society of New Brunswick—a long list of valuable prizes are offered for the encouragement of Farmers, during the present year, and a *Cattle Show* is to be held at Fredericton during the ensuing September.

General Coffin has arrived in New Brunswick, from England.

Spontaneous Combustion.—A fire was lately discovered in the store of Mr W. S. Campbell, and on being traced to its source was found to proceed from a parcel of paper rags, principally cotton, some of which had been saturated with oil, from having been used in cleaning lamps. The situation of the rags left no doubt of the origin of the combustion, and should operate as a caution against danger from similar causes.—*N. Y. Statesman.*

The sales of hammered stone at the New Hampshire State Prison the last year, amounted to $16,327. The profits, or excess of receipts over disbursements, amounted to $7,773.

The number of "Firemen" in the city of New-York is 1038.

It is said that 17,500 persons perished in the late earthquake near Algiers, of which 2,500 were Jews.

A mummy, from Egypt, was received by the America, at Philadelphia, last week.

A desperate choice.—A young man by the name of Samuel Lycomb, shot himself at Bloomfield, Me. the 19th ult. He was to have been married on the following Sunday. We think he might have tried the latter alternative, at least for a short time.

Land has lately been sold at Paris at the rate of upwards of $500,000 an acre.

Some individuals in Colombia applied to the U. S. Bank for loans on mortgages; but the Bank felt itself obliged to decline.

A Bank has been chartered at Caracas, which may help commerce.

Watson's celebrated horse Highlander.

This truly elegant and valuable Horse will stand this season at the stable of the subscriber in East Windsor, Con.

HIGHLANDER is of the English and Arabian breed of Horses, of a fine temper, six years old the 10th day June last; fifteen hands three inches high, of a most beautiful dark dapple gray; walks and trots remarkably fast; and exhibits as much muscular strength, elegant movement, and perfect symmetry of form, as any horse in this country. He has proved himself a sure foal getter. The colts sired by him possess a large share of bone and muscle, several of them are to be seen at his stand, which for beauty, size, and activity, are unrivalled; two of his two year old colts took the two first premiums at the cattle show at Hartford, in October last, and have since been sold for $850.

The first premium was awarded to Highlander by the Hartford County Agricultural Society, and by the Hampshire, Hampden and Franklin Agricultural Society in 1823.

Pedigree—Highlander was sired by the noted Horse Highlander which was the son of Sample (the best blood in England) which was got by the Arabian Horse Verman Arabian—Highlander's dam was one of the first blood mares of a dapple gray, by Gunpowder, owned by Benj'n Perkin's, Esq. and bred by the Rev. Dr. Perkins from his full blood English mare. Gunpowder was sired by Whitman's Obscurity which was by old Obscurity imported into Baltimore by Benj'n Crocket; his dam was imported by Charles Carroll, and got by Selim, his grand dam by Cullen Arabian.

The terms will be reasonable and a liberal credit given. RALPH WATSON.

East Windsor, June 1825.

SAXONY SHEEP.

ON Thursday 14 July next, at Brighton, (near Boston,) at 9 o'clock A. M. opposite the seat of Samuel W. Pomeroy, Esq. will be sold by Public Auction, the entire flock of SAXONY SHEEP, imported per barque Eramin, consisting of 81 Rams, 57 Ewes, and 29 Lambs.

These Sheep were selected with great care during the whole of the last winter, and no pains or expense were spared to procure the very best Sheep from the Electoral as well as from private flocks, it having appeared from the experience of the past year, that none but the very finest animals could be sold with profit.

The owners are confident that another flock equally select could not possibly be procured from that country.

Samples of the wool from each sheep will be exhibited until the day of sale, by Mess Peter Remsen & Co. Hanover-Square, New York; by Mess J. D. & A. Whitney, Northampton; and at the office of

COOLIDGE, FOOR & HEAD, *Auctioneers.*

☞The Sheep may be examined at the place of sale at any time previous to the abovementioned date.

E. PARSONS & CO. City Furniture warehouse, Union Street, near the Union Stone, keep constantly on hand for sale, a general assortment of furniture, chairs, looking glasses, feathers of all kinds, fire sets, brushes, bellows, &c. &c. *Boston, March 25.*

CASH will be paid at this office, for any No. of copies of Nos. 36, 41 and 45 vol. III.

MR WILLIAMS' celebrated horse ROMAN, will stand the present season, at his farm, in Northboro', Worcester co. Mass. Terms 20 dollars for the season; to be paid on taking away the mares. A particular account of the pedigree and performances of this horse, will be found in the New England Farmer, of May 20, 1825.

PATENT HOES—Notice is hereby given, that the subscribers are appointed the sole agents for vending *J. & A. Fale's Patent Hoes*, which are offered for sale at factory prices by A.D.WELD & J. FRENCH Jr. Boston, March 25, 1825. No. 713 Washington St.

PATENT HOES—For Sale at the Agricultural Establishment, 108 State Street, up stairs,

50 dozen of Hinc's crook neck spring tempered steel hoes, warranted in every respect.—The superiority of these hoes consists in their lightness and strength, and being in no way liable to clog. May 27

MISCELLANIES.

From the Rockingham Gazette.

THE RISING MOON.

The moon is up! how calm and slow
She wheels above the hill!
The weary winds forget to blow,
And all the world lies still.

The way-worn travellers with delight
The rising brightness see,
Revealing all the paths and plains,
And gilding every tree.

It glistens where the hurrying stream
Its little rippling heaves;
It falls upon the forest shade,
And sparkles on the leaves.

So once, on Judah's evening hills,
The heavenly lustre spread;
The gospel sounded from the blaze,
And shepherds gazed with dread.

And still that light upon the world
In guiding splendor throws;
Bright in the opening hours of life,
And brighter at the close.

The waning moon in time shall fail
To walk the midnight skies;
But God hath kindled this bright light
With fire that never dies.

Early Rising.—To rise early is so truly the one thing needful above all—to those who are candidates for either of those capital prizes—Health, Wealth, or Wisdom, that it is the only sure foundation for securing any chance of obtaining either of them.

"He that would thrive
Must rise by Five;—
He that has thriven
May lie till Seven."

Instances may be found (but very seldom) of persons, who have set up late becoming wealthy, but they have paid for it the unwise price of their health. You cannot remember one solitary example of a sluggard having ever obtained one of these blessings of life. "Shake off dull sloth and early rise." There is no time spent so stupidly as that which inconsiderate people pass in a morning between sleeping and waking. He who is awake may be at work or at play; he who is asleep is receiving the refreshment necessary to fit him for action; but the hours spent in dozing and slumbering are wasted, without either pleasure or profit. The sooner you leave your bed the seldomer you will be confined to it. When old people have been examined in order to ascertain the cause of their longevity, they have uniformly agreed in one thing only, that they "all went to bed and all rose early."

Packing Cotton.—A person packed the different parts of a large broken grindstone in the centre of a bale of cotton, by the way perhaps of helping to defray expenses, or by way of replacing it with a whole one without loss. The cotton was sold at a good price, and went to Liverpool, where it was disposed of to a manufacturer. On being opened, the grindstone was found quietly and snugly bedded in the centre of the bale, and not being a convenient article to manufacture into cloth, it was weighed and sent back to Liverpool, from whence it was forwarded to the shipper in this country, and by him was sent on to the person at whose gin it had been so adroitly put up, with bill of costs for two passages across the ocean, added to the price paid for it according to its gravity in its first transfer. And it is said on its arrival at its proper location, a small child recognising an old acquaintance, immediately cried out, "La, pa, here is the old grindstone come back again."—*Augusta paper.*

Olden times in England.—In the age next preceding Queen Elizabeth, there were few chimneys, even in the capital towns; the fire was laid to the wall, and the smoke issued at the roof, or door, or window. The houses were wattled, and plastered over with clay; and all the furniture and utensils were of wood. The people slept on straw pallets, with a log of wood for a pillow.

A Mother.—There is something in sickness that breaks down the pride of manhood; that softens the heart, and brings it back to the feelings of infancy. Who that has suffered, even in advanced life, in sickness and despondency—who that has pined in a weary bed in the neglect and loneliness of a foreign land—but has thought of the mother that looked on his childhood, that smoothed his pillow and administered to his help? Oh! there is an endearing tenderness in the love of a mother to her son that transcends all other affections of the heart. It is neither to be chilled by selfishness nor daunted by danger, nor weakened by worthlessness, nor stifled by ingratitude. She will sacrifice every comfort to his convenience; she will surrender every pleasure to his enjoyment; she will glory in his fame, and exult in his prosperity; and if adversity overtake him, he will be dearer to her by misfortune; and if disgrace settle upon his name, she will still love and cherish him; and if all the world cast him off, she will be all the world to him.

Husband and Wife.—Among some, who have read Blackstone, and more, who have not, the erroneous and ungallant opinion prevails, that a husband may chastise his wife, provided the weapon be not thicker than his little finger.—For the benefit of the ladies, the information of the gentleman, and the honour of our land, it should be known that this is not the law of South Carolina. There was a decision of our constitutional [supreme] court about thirteen years since pronounced by the late Judge Wilds, in the dignified sweetness of his noble spirit, in which he proclaimed the law of South Carolina on this subject, in the following graceful extract from the Honey Moon:

"The man that lays his hand upon a woman,
Save in the way of kindness, is a wretch,
Whom t'were gross flattery to name *a coward.*"

Henry the Fourth of France, was dignified without pride, mild without pusillanimity, and generous without prodigality. He used frequently to observe, that the satisfaction to be derived from revenge was momentary; but that which was gained from clemency, lasted forever.

A wit, reading the account of the death of Mr Snowball, who put an end to his life for love, exclaimed—"Poor fellow! what a pity he did not wait for a thaw, for then he would have died a natural death."

Epidemic among Horses.—A Paris paper of the 13th May, says, "The epidemic which has raged for three months among the horses of Paris and several neighbouring places, continues to make great havoc. Its progress is particularly seen in the capital and the environs, where the mortality increases to such a degree that it has become impossible to trace limits to its ravages or duration. Many horses of great value have fallen victims, and all are threatened."

Russian Punishments.—A subaltern officer of the Guards, having stabbed his captain in the back while at exercise, the murderer was sentenced by a Court Martial to run the gauntlet, twelve times through 1000 men. The punishment was inflicted yesterday, and the delinquent expired immediately after.—*St Petersburg Journal, April* 23.

Remorse seldom advances a man to fame, and the tears which are received as an earnest of our repentance by Heaven, do not wash away our shame from the recollection of man.

It is better to be laughed at than ruined; better to have a wife, who, like Martial's Mamurra, cheapens every thing and buys nothing, than to be impoverished by one whose pride will cheapen nothing.

The Improved Durham Short Horned Bull ADMIRAL, *and the Herefordshire Bull* SIR ISAAC.

THE Trustees of the Massachusetts Agricultural Society will let out, upon reasonable terms, the above named imported animals. They were purchased and presented to the Society by Admiral Coffin for the benefit of his native state. Reliance may be placed on the purity of the stock. The Calves of Admiral have proved very fine. He is now four years old, and is on the farm of E. H. DERBY, Esq. at Salem. His term will expire there the 16th of August, after which he may be had for one year, in any other county.

The Hereford Bull is two years old,—is now on the farm of JOHN PRINCE, Esq. Roxbury. His term will expire on the 12th July. Any person wishing him at an earlier period will be accommodated. They are both very gentle and fine-tempered. The stock of Admiral are peculiarly calculated for the *Stall* and *Dairy*. The Hereford breed have sometimes carried prizes in England against the "Short Horns," as *Beef Cattle*.—They are also admirable *Draught* cattle, and esteemed good for the *Dairy*.

The terms will be reasonable and advantageous to the persons who shall take them for one year, and take good care of them, as the great object of the Trustees is to give an opportunity of crossing our native breeds under the hope of improving them.—For terms apply to JOHN LOWELL, or JOHN PRINCE, Esq. Roxbury. *Roxbury, May* 1825.

NATHANIEL DEARBORN has removed from No. 33, to 64, Market-street, up stairs—where he respectfully solicits a continuance of public favor. Cards of every description engraved and printed—Door Plates and Stencil Plates furnished—Engravings on Wood—seals, &c. executed to order.

TO PRINTERS—For sale, a font of Pica, but little worn. Inquiry may be made of the Publisher of the Farmer; or a line may be dropped to M. H. Boston.

TERMS OF THE FARMER.

☞ Published every Friday, at THREE DOLLARS per annum, payable at the end of the year—but those who pay within *sixty days* from the time of subscribing will be entitled to a deduction of FIFTY CENTS.

Gentlemen who procure *five* responsible subscribers, are entitled to one volume gratis.